

# **NORTRON<sup>®</sup> Flowable** HERBICIDE

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<b>GROUP</b>	<b>16</b>	<b>HERBICIDE</b>
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**FOR THE SELECTIVE CONTROL OF WEEDS IN SUGARBEETS**

**AGRICULTURAL**

**SUSPENSION CONCENTRATE**

**REGISTRATION NO. 17293 PEST CONTROL PRODUCTS ACT**

**GUARANTEE: Ethofumesate 480 g/L**

**CONTAINS 1,2-BENZISOTHIAZOLIN-3-ONE AT 0.03% AS A PRESERVATIVE**

**READ THE LABEL AND BOOKLET BEFORE USING**

**NET CONTENTS: 10 L**

**Product Information: 1-888-283-6847**

Bayer CropScience Inc.  
Suite 100, 3131 114th Avenue S.E.  
Calgary, Alberta T2Z 3X2

**In case of spills, poisoning or fire, telephone emergency response number 1-800-334-7577 (24 hours a day).**

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## GENERAL INFORMATION

### SECTION 1: NOTICE TO USER

This pest control product is to be used only in accordance with the directions on the label. It is an offence under the *Pest Control Products Act* to use this product in a way that is inconsistent with the directions on the label. The user assumes the risk to persons or property that arises from any such use of this product.

### SECTION 2: THE PRODUCT

NORTRON Flowable is a selective soil-applied herbicide for use in sugarbeets.

## SAFETY AND HANDLING

### SECTION 3: PRECAUTIONS, PROTECTIVE CLOTHING AND EQUIPMENT

#### KEEP OUT OF REACH OF CHILDREN

Harmful if swallowed, inhaled, or absorbed through skin. Avoid contact with skin, eyes, or clothing. Avoid breathing vapour or spray mist. Wash thoroughly with soap and water after handling.

Wear a long-sleeved shirt, long pants, shoes and socks during mixing, loading, application, clean-up and repair activities. In addition wear chemical-resistant gloves during mixing, loading, clean-up and repair activities.

If this pest control product is to be used on a commodity that may be exported to the U.S. and you require information on acceptable residue levels in the U.S., visit CropLife Canada's web site at: [www.croplife.ca](http://www.croplife.ca).

## SECTION 4: FIRST AID AND TOXICOLOGICAL INFORMATION

### FIRST AID:

Take container, label or product name and Pest Control Product Registration Number with you when seeking medical attention.

If swallowed	<ul style="list-style-type: none"><li>• Call a poison control centre or doctor immediately for treatment advice.</li><li>• Do not induce vomiting unless told to do so by a poison control centre or doctor.</li><li>• Do not give any liquid to the person.</li><li>• Do not give anything by mouth to an unconscious person.</li></ul>
If on skin or clothing	<ul style="list-style-type: none"><li>• Take off contaminated clothing.</li><li>• Rinse skin immediately with plenty of water for 15–20 minutes.</li><li>• Call a poison control centre or doctor for treatment advice.</li></ul>
If inhaled	<ul style="list-style-type: none"><li>• Move person to fresh air.</li><li>• If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible.</li><li>• Call a poison control centre or doctor for further treatment advice.</li></ul>
If in eyes	<ul style="list-style-type: none"><li>• Hold eye open and rinse slowly and gently with water for 15–20 minutes.</li><li>• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control centre or doctor for treatment advice.</li></ul>

**TOXICOLOGICAL INFORMATION:** NORTRON Flowable herbicide is not a cholinesterase inhibitor; there is no specific antidote. No effects of overexposure have been observed in humans. Not a skin sensitizer under normal use.

## SECTION 5: ENVIRONMENTAL PRECAUTIONS AND INFORMATION

Keep out of lakes, ponds, rivers or streams. Do not contaminate water by cleaning of equipment or disposal of wastes.

To reduce runoff from treated areas into aquatic habitats, consider the characteristics and conditions of the site before treatment. Site characteristics and conditions that may lead to runoff include, but are not limited to, heavy rainfall, moderate to steep slope, bare soil, poorly draining soil (e.g. soils that are compacted, fine textured, or low in organic matter such as clay).

Avoid application of this product when heavy rain is forecast.

TOXIC to aquatic organisms and non-target terrestrial plants. Observe buffer zones specified under **DIRECTIONS FOR USE**.

## **SECTION 6: STORAGE**

Store product in original container only. Do not store near foods, feeds, seeds or fertilizers. Avoid contamination of food. Store NORTRON Flowable herbicide in a cool place above 0°C.

## **SECTION 7: DISPOSAL**

Do not reuse this container for any purpose. This is a recyclable container, and is to be disposed of at a container collection site. Contact your local distributor/dealer or municipality for the location of the nearest collection site. Before taking the container to the collection site:

1. Triple- or pressure-rinse the empty container. Add the rinsings to the spray mixture in the tank.
2. Make the empty, rinsed container unsuitable for further use.

If there is no container collection site in your area, dispose of the container in accordance with provincial requirements.

**Disposal of Unused, Unwanted Product:** For information on disposal of unused, unwanted product, contact the manufacturer or the provincial regulatory agency. Contact the manufacturer and the provincial regulatory agency in case of a spill, and for cleanup of spills.

**Disposal of unused spray solution:** If any spray solution remains in the tank after spraying is finished, it should be sprayed on the perimeter of the field just sprayed, **NOT ON THE CROP**, away from water supplies, ditches, irrigation canals and desirable vegetation.

## **DIRECTIONS FOR USE**

### **SECTION 8: CROPS AND WEEDS**

#### **8.1 CROPS AND WEEDS CONTROLLED**

NORTRON Flowable is a selective soil-applied herbicide for use in sugarbeets for the control of the weed species listed below. It provides effective control of these weeds for up to 10 weeks following application:

Lady's-thumb, Purslane, Shepherd's-purse, Kochia, Barnyard Grass, Wild Oats, Volunteer Wheat, Common Lamb's-quarters, Redroot Pigweed, Pennsylvania Smartweed, Crabgrass, Foxtail, Volunteer Barley, Volunteer Oats.

NORTRON Flowable herbicide will also reduce competition of these hard-to-control weeds: Wild Buckwheat, Russian Thistle, and Black Nightshade.

**8.2 APPLICATION RATES AND TANK-MIXTURES**  
**NORTRON Flowable alone or in Tank-Mixes**

Products	Rates per hectare and soil types					
	Light Soils: Sands, Loamy Sands and Sandy Loams		Medium Soils: Silt and Clay Loams which contain less than 3% organic matter		Heavy Soils: Clay Loam and Clays including those which contain more than 3% organic matter	
	BROAD- CAST	18 cm band width 55 cm row <sup>1</sup>	BROAD- CAST	18 cm band width 55 cm row <sup>1</sup>	BROAD- CAST	18 cm band width 55 cm row <sup>1</sup>
NORTRON Flowable	3.2 - 4.5 L	1.0 - 1.6 L	4.5 - 6.75 L	1.6 – 2.25 L	6.75 - 8.25 L	2.25 – 2.8 L
NORTRON Flowable plus PYRAMIN FL <sup>2,3</sup>	DO NOT USE		3.65 L 5.25 L	1.20 L 1.73 L	DO NOT USE	

- 1 For other band or row widths adjust the rates in proportion to the area actually treated. Where a range of rates is given for a group of soils use the higher rate on the heavier soil or those high in organic matter content.
- 2 **For use in Alberta Only.** The mixture is applied pre-emergence to sugarbeets under sprinkler irrigation. Incorporate the products by applying 1.25 cm of water within 7 days after application. Do not mechanically incorporate this tank mix as crop injury may result. Do not apply to soils with less than 2% organic matter as crop injury may result. Apply one application per year. Do not rotate with any crops other than sugarbeets for 12 months after application. Consult Pyramin FL label for additional information and precautions.
- 3 PYRAMIN FL rate is based on the commercial formulation containing 430 g/L pyrazon. If other formulations are used adjust rate accordingly.

## SECTION 9: APPLICATION INSTRUCTIONS and USE LIMITATIONS

### 9.1 GENERAL REMINDERS FOR SUCCESSFUL OPERATION

- Apply only once per season with ground equipment. DO NOT APPLY BY AIR.
- NORTRON Flowable herbicide should be used only for recommended purposes and at recommended rates. (DO NOT OVERTREAT.)
- This product applied according to directions and under normal growing conditions will not injure sugarbeets, though it may cause early leaf fusion, distortion and stunting, particularly if the crop is under stress.
- SHAKE CONTAINER WELL BEFORE USING.
- Do not mix this product with liquid fertilizers.
- Do not allow spray mixture to stand in tank overnight. Flush and drain spray equipment after each day's use.

### 9.2 GROUND APPLICATION

**SPRAY EQUIPMENT:** Apply NORTRON Flowable herbicide to the soil using standard low pressure (150–275 kPa) ground spray equipment. Spray equipment should be carefully calibrated before use and checked frequently during application to see that it is functioning properly.

Apply uniformly the recommended rate in 110–560 litres of water per hectare. Avoid overlaps since crop injury may result. Do not use smaller than 50-mesh strainer and never less than an 8002E nozzle orifice. A Tee Jet 8003E is a better choice for this purpose and is recommended for appropriate screen to orifice size relationship.

**SOIL PREPARATION:** The soil should be prepared according to good agricultural practices. Large clods can reduce the effectiveness of this product. All existing vegetative growth should be thoroughly worked into the soil before treatment.

**FALL LAYERING APPLICATION:** This method of application can be used when spring moisture is marginal, or where irrigation water is not available at planting time. Fall bedding utilises the winter-accumulated moisture to enhance activation of the herbicide and to aid in germination of the sugarbeet crop.

Prepare the field (as for planting: plow, pack and float, etc.) in the fall before ground freezes. Apply NORTRON Flowable herbicide in a band on the soil surface at the recommended rate indicated in the appropriate regional dosage table. Be sure that the soil surface to be treated is free from trash and vegetation.

Cover the treated bands with soil and form beds or ridges using ditchers or discs. In the spring when the soil is sufficiently dry to be worked, deridge the beds down to within 1.0 to 2.5 cm of the treated layer using suitable equipment such as the Kirchner Bedder or Oregon

Northslope Harrow. When deridging, maintain the original bedding guidance system by using a bull tongue chisel, slide guides or similar equipment. This will ensure that the planter will follow in the treated band. Plant sugarbeets in the deridged area when the soil conditions allow.

**SPRING APPLICATION:** Apply NORTRON Flowable herbicide before or at planting time and incorporate into the soil to a depth of 2.5 to 5.0 cm. Deeper incorporation may reduce effectiveness.

**INCORPORATION EQUIPMENT:** Test results have shown hooded-power or ground-driven rotary tillers, rolling cultivators and harrows to be effective for incorporating NORTRON Flowable herbicide into the soil. Do not apply this product through soil injector shanks.

**CULTURAL PRACTICES FOLLOWING APPLICATION:** When properly applied NORTRON Flowable herbicide will provide up to 10 weeks' control of susceptible weed species. In-row cultivation and thinning practices will reduce the period of weed control; therefore, care should be exercised to minimize soil disturbance.

DO NOT apply this product directly to freshwater habitats (such as lakes, rivers, sloughs, ponds, prairie potholes, creeks, marshes, streams, reservoirs, ditches and wetlands), estuaries or marine habitats. DO NOT contaminate irrigation or drinking water supplies or aquatic habitats by cleaning of equipment or disposal of wastes.

### 9.3 SPRAY DRIFT MANAGEMENT AND BUFFER ZONES

Field sprayer application: DO NOT apply during periods of dead calm. Avoid application of this product when winds are gusty. DO NOT apply with spray droplets smaller than the American Society of Agricultural Engineers (ASAE) medium classification.

**Buffer zones:**

The buffer zones specified in the table below are required between the point of direct application and the closest downwind edge of sensitive terrestrial habitats (such as grasslands, forested areas, shelter belts, woodlots, hedgerows, rangelands, riparian areas and shrublands) and sensitive freshwater habitats (such as lakes, rivers, sloughs, ponds, prairie potholes, creeks, marshes, streams, reservoirs, ditches and wetlands).

Method of Application	Buffer Zones (metres) Required for the Protection of:			
	Freshwater Habitats of Depths:			Terrestrial Habitat
	Less than 1 m	1–3 m	Greater than 3 m	
Field sprayer	1	0	0	2

When a tank mixture is used, consult the labels of the tank-mix partners and observe the largest (most restrictive) buffer zone of the products involved in the tank mixture.



## 9.4 ROTATIONAL CROPS

Do not rotate with any crops other than sugarbeets for 12 months after application. Thorough tillage, including moldboard plowing, should precede the planting of crops other than sugarbeets. Do not use NORTRON Flowable Herbicide on muck or peat soils.

If crop is lost due to climatic or soil conditions following application of this product, do not plant crops other than sugarbeets in NORTRON Flowable Herbicide treated land during the same season. If fields are replanted to sugarbeets, reseed into treated band. Do not retreat field with NORTRON Flowable herbicide.

To reduce injury to rotational crops following a droughty sugarbeet season, this product should be applied only in a band and the field should be moldboard plowed after harvest.

Wheat and Barley may be injured if planted following a droughty sugarbeet year.

### **SECTION 10: PRE-GRAZING/FEEDING AND RE-ENTRY INTERVAL**

DO NOT graze the treated crops or cut for hay; there are not sufficient data available to support such use.

Do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 12 hours.

### **SECTION 11: MIXING INSTRUCTIONS**

When mixing NORTRON Flowable herbicide in the spray tank with Pyramin FL, add NORTRON Flowable herbicide first and agitate spray solution thoroughly. DO NOT allow spray mixture to stand in tank overnight.

### **SECTION 12: SPRAYER CLEANUP**

Flush and drain spray equipment after each day's use.

## **SECTION 13: RESISTANCE MANAGEMENT RECOMMENDATIONS**

For resistance management, NORTRON Flowable is a Group 16 herbicide. Any weed population may contain or develop plants naturally resistant to this product and other Group 16 herbicides. The resistant biotypes may dominate the weed population if these herbicides are used repeatedly in the same field. Other resistance mechanisms that are not linked to site of action, but specific for individual chemicals, such as enhanced metabolism, may also exist. Appropriate resistance-management strategies should be followed.

To delay herbicide resistance:

1. Where possible, rotate the use of this product or other Group 16 herbicides with different herbicide groups that control the same weeds in a field.
2. Use tank mixtures with herbicides from a different group when such use is permitted.
3. Herbicide use should be based on an IPM program that includes scouting, historical information related to herbicide use and crop rotation, and considers tillage (or other mechanical), cultural, biological and other chemical control practices.
4. Monitor treated weed populations for resistance development.
5. Prevent movement of resistant weed seeds to other fields by cleaning harvesting and tillage equipment and planting clean seed.
6. Contact your local extension specialist or certified crop advisors for any additional pesticide resistance-management and/or integrated weed-management recommendations for specific crops and weed biotypes.
7. For further information or to report suspected resistance contact Bayer CropScience Inc. via internet at [www.bayercropscience.ca](http://www.bayercropscience.ca) or telephone at 1-888-283-6847.

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